

CLAIMS

1.00033441.4 224.00

1. A method of routing an information packet from a source in a first autonomous system via a first label switched path to a destination in a second autonomous system via a second label switched path, the method comprising:
at an interface between the autonomous systems, mapping the first label switched path on to the second label switched path.
2. A method of routing an information packet from a source router in a first autonomous system via a first label switched path to a destination router in a second autonomous system via first and second border routers at an interface between said first and second autonomous systems, wherein a border gateway protocol (BGP) is employed in which a label identifies both a forwarding interface for a packet and a forwarding behaviour at that interface so as to provide a mapping from said first label switched path on to a second label switched path to the destination in said second autonomous system.
3. A method as claimed in claim 1, wherein the destination router in the second autonomous system returns to the source router in the first autonomous system a two-label stack identifying first and second paths across the first and second autonomous systems respectively.
4. A method as claimed in claim 3, wherein said first label identifies a path from the source router to a border router in said first autonomous system, and said second label identifies a route from the source router to the destination router.
5. A method as claimed in claim 2, wherein said label identifies a next hop label switched path so as to identify an interface mapping.

6. A method as claimed in claim 3, wherein each router advertises new routes to reachable routers in its respective autonomous system via a BGP message.

5 7. a method as claimed in claim 4, wherein route information is encoded in a network layer reachability information (NLRI) element that is inserted in the BGP message.

10 8. A method as claimed in claim 7, wherein a said label is modified to change an egress label switched path of a said border router so as to provide a cross-connect function.

15 9. A method as claimed in claim 7, wherein said labels enable multiple diversion route storage at a said border router.

10 10. A method as claimed in claim 9, and including selection of routes from said stored multiple diversion routes so as to provide load balancing.

15 11. Software in machine readable form on a storage medium and arranged to perform a method as claimed in claim 2.

12. A communications network router controlled by software as claimed in claim 11.

20 13. A communications network comprised by a plurality of interconnected autonomous systems and in which information packets are routed from a source in a first autonomous system via a first label switched path to a destination in a second autonomous system via first and second border routers at an interface between said first and second autonomous systems, wherein the communications network employs a border gateway protocol (BGP) in which a label identifies both a forwarding interface for a packet and a forwarding behaviour at that interface so as to provide a mapping from said first label switched path on to a second label switched path to the destination in said second autonomous system.

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